

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1-6. (Canceled).

7. (Currently Amended) A microorganism in which activity of FAD-dependent D-lactate dehydrogenase (dld) inherent in the microorganism is inactivated or decreased, activity of pyruvate formate-lyase (pfl) inherent in the microorganism is inactivated or decreased, and/or activity of *Escherichia coli*-derived NADH-dependent D-lactate dehydrogenase (ldhA) inherent in the microorganism is enhanced.

8-14. (Canceled).

15. (Currently Amended) A microorganism, wherein activity of pyruvate formate-lyase (pfl) inherent in the microorganism is inactivated or decreased, and activity of FAD-dependent D-lactate dehydrogenase (dld) inherent in the microorganism is inactivated or decreased, and

wherein a gene encoding *Escherichia coli*-derived NADH-dependent D-lactate dehydrogenase (ldhA) expresses the NADH-dependent D-lactate dehydrogenase (ldhA) on the genome of the microorganism by using a promoter of a gene which controls expression of a protein involved in a glycolytic pathway, a nucleic acid biosynthesis pathway or an amino acid biosynthesis pathway.

16. (Original) The microorganism according to claim 15, wherein the microorganism is *Escherichia coli*.

17. (Canceled).

18. (Currently Amended) *Escherichia coli*, wherein activity of pyruvate formate-lyase (pfl) inherent in the *Escherichia coli* is inactivated or decreased, and activity of FAD-dependent D-lactate dehydrogenase (dld) inherent in the *Escherichia coli* is inactivated or decreased, and

which expresses *Escherichia coli*-derived NADH-dependent D-lactate dehydrogenase (ldhA) on the genome of *Escherichia coli* by using a promoter of an *Escherichia coli*-derived gene which controls expression of a protein involved in a glycolytic pathway, a nucleic acid biosynthesis pathway or an amino acid biosynthesis pathway, instead of using a promoter of a gene encoding the *Escherichia coli*-derived NADH-dependent D-lactate dehydrogenase (ldhA).

19. (Original) *Escherichia coli* according to claim 18, wherein the promoter of the *Escherichia coli* gene, which controls expression of the protein involved in the glycolytic pathway, the nucleic acid biosynthesis pathway or the amino acid biosynthesis pathway, is a promoter of an *Escherichia coli*-derived glyceraldehyde-3-phosphate dehydrogenase gene.

20-21. (Canceled).

22. (Currently Amended) ~~An microorganism~~ *Escherichia coli* having a TCA cycle, wherein activity of malate dehydrogenase (mdh) is inactivated or decreased, activity of pyruvate formate-lyase (pfl) is inactivated or decreased, and ~~or~~ activity of FAD-dependent D-lactate dehydrogenase (dld) is inactivated or decreased,

wherein activity of aspartate ammonia-lyase (aspA) inherent in the microorganism is inactivated or decreased, and

wherein activity of *Escherichia coli*-derived NADH-dependent D-lactate dehydrogenase (ldhA) is enhanced.

23-40. (Canceled).

41. (New) The microorganism according to claim 7, wherein at least one of activity of malate dehydrogenase (mdh) inherent in the microorganism and activity of aspartate ammonia-lyase (aspA) inherent in the microorganism are inactivated or decreased.

42. (New) The microorganism according to claim 7, wherein the microorganism is a bacteria.

43. (New) The microorganism according to claim 41, wherein the microorganism is a bacteria.

44. (New) The microorganism according to claim 42, wherein the bacteria is *Escherichia coli*.

45. (New) The microorganism according to claim 43, wherein the bacteria is *Escherichia coli*.

46. (New) A method for producing D-lactic acid, which comprises culturing the microorganism according to claim 7 in a liquid medium, wherein D-lactic acid is produced, accumulated, and isolated from the liquid medium.

47. (New) A method for producing D-lactic acid, which comprises culturing the microorganism according to claim 41 in a liquid medium, wherein D-lactic acid is produced, accumulated, and isolated from the liquid medium.

48. (New) A method for producing D-lactic acid, which comprises culturing the microorganism according to claim 42 in a liquid medium, wherein D-lactic acid is produced, accumulated, and isolated from the liquid medium.

49. (New) A method for producing D-lactic acid, which comprises culturing the microorganism according to claim 43 in a liquid medium, wherein D-lactic acid is produced, accumulated, and isolated from the liquid medium.

50. (New) A method for producing D-lactic acid, which comprises culturing the microorganism according to claim 44 in a liquid medium, wherein D-lactic acid is produced, accumulated, and isolated from the liquid medium.

51. (New) A method for producing D-lactic acid, which comprises culturing the microorganism according to claim 45 in a liquid medium, wherein D-lactic acid is produced, accumulated, and isolated from the liquid medium.

52. (New) The method for producing D-lactic acid according to claim 46, wherein culture is carried out on a medium to which two or more kinds of amino acids are added.

53. (New) The method for producing D-lactic acid according to claim 47, wherein culture is carried out on a medium to which two or more kinds of amino acids are added.

54. (New) The method for producing D-lactic acid according to claim 48, wherein culture is carried out on a medium to which two or more kinds of amino acids are added.

55. (New) The method for producing D-lactic acid according to claim 49, wherein culture is carried out on a medium to which two or more kinds of amino acids are added.

56. (New) The method for producing D-lactic acid according to claim 50, wherein culture is carried out on a medium to which two or more kinds of amino acids are added.

57. (New) The method for producing D-lactic acid according to claim 51, wherein culture is carried out on a medium to which two or more kinds of amino acids are added.

58. (New) The method for producing lactic acid according to claim 46, wherein culture is carried out under aerobic conditions.

59. (New) The method for producing lactic acid according to claim 47, wherein culture is carried out under aerobic conditions.

60. (New) The method for producing lactic acid according to claim 48, wherein culture is carried out under aerobic conditions.

61. (New) The method for producing lactic acid according to claim 49, wherein culture is carried out under aerobic conditions.

62. (New) The method for producing lactic acid according to claim 50, wherein culture is carried out under aerobic conditions.

63. (New) The method for producing lactic acid according to claim 51, wherein culture is carried out under aerobic conditions.

64. (New) The method for producing lactic acid according to claim 58, wherein the

aerobic conditions enable supply of oxygen which satisfies a requirement of an oxygen-transfer coefficient  $K_{La}$  of not less than  $1\text{ h}^{-1}$  and not more than  $400\text{ h}^{-1}$  at normal pressure using water at a temperature of  $30^{\circ}\text{C}$ .

65. (New) The method for producing lactic acid according to claim 59, wherein the aerobic conditions enable supply of oxygen which satisfies a requirement of an oxygen-transfer coefficient  $K_{La}$  of not less than  $1\text{ h}^{-1}$  and not more than  $400\text{ h}^{-1}$  at normal pressure using water at a temperature of  $30^{\circ}\text{C}$ .

66. (New) The method for producing lactic acid according to claim 60, wherein the aerobic conditions enable supply of oxygen which satisfies a requirement of an oxygen-transfer coefficient  $K_{La}$  of not less than  $1\text{ h}^{-1}$  and not more than  $400\text{ h}^{-1}$  at normal pressure using water at a temperature of  $30^{\circ}\text{C}$ .

67. (New) The method for producing lactic acid according to claim 61, wherein the aerobic conditions enable supply of oxygen which satisfies a requirement of an oxygen-transfer coefficient  $K_{La}$  of not less than  $1\text{ h}^{-1}$  and not more than  $400\text{ h}^{-1}$  at normal pressure using water at a temperature of  $30^{\circ}\text{C}$ .

68. (New) The method for producing lactic acid according to claim 62, wherein the aerobic conditions enable supply of oxygen which satisfies a requirement of an oxygen-transfer coefficient  $K_{La}$  of not less than  $1\text{ h}^{-1}$  and not more than  $400\text{ h}^{-1}$  at normal pressure using water at a temperature of  $30^{\circ}\text{C}$ .

69. (New) The method for producing lactic acid according to claim 63, wherein the aerobic conditions enable supply of oxygen which satisfies a requirement of an oxygen-transfer coefficient  $K_{La}$  of not less than  $1\text{ h}^{-1}$  and not more than  $400\text{ h}^{-1}$  at normal pressure using water at a temperature of  $30^{\circ}\text{C}$ .

70. (New) The method for producing lactic acid according to claim 46, wherein the culture pH is 6 to 8.

71. (New) The method for producing lactic acid according to claim 47, wherein the culture pH is 6 to 8.

72. (New) The method for producing lactic acid according to claim 48, wherein the culture pH is 6 to 8.

73. (New) The method for producing lactic acid according to claim 49, wherein the culture pH is 6 to 8.

74. (New) The method for producing lactic acid according to claim 50, wherein the culture pH is 6 to 8.

75. (New) The method for producing lactic acid according to claim 51, wherein the culture pH is 6 to 8.